



Peninsular Ranges Geomorphic Province



The Peninsular Ranges geomorphic province consists of a series of mountain ranges separated by long valleys, formed from faults branching from the San Andreas Fault. The topographic trend is similar to the Coast Ranges, but the geology is more like the Sierra Nevada, with granitic rocks intruding the older metamorphic rocks. The Los Angeles Basin and the Channel Islands of Santa Catalina, Santa Barbara, San Clemente and San Nicolas are included in this province. Also included is the surrounding continental shelf (cut by deep submarine fault troughs). At the northern end of the province Mount San Jacinto forms the dramatic backdrop to the Coachella Valley more than 10,000 feet below. The Peninsular Ranges extend south across the international border into Baja California, forming the spine of Baja California.

Tectonic Setting

The Peninsular Ranges and the very similar Sierra Nevada probably formed in similar tectonic environments during the same period of time. However, they currently lie on opposite sides of the tectonic plate boundary represented by the San Andreas Fault system. The Peninsular Ranges are slowly moving northward along the coast headed toward Alaska.



GeoGems

San Onofre State Beach, Torrey Pines State Natural Reserve, and Cuyamaca Rancho State Park lie within the Peninsular Ranges geomorphic province. Cuyamaca Rancho State Park is the most representative of the Peninsular Ranges, whereas Torrey Pines and San Onofre are examples of the Southern Coastline Geomorphic Subprovince described in GeoGem Note 50. **Anza-Borrego Desert State Park** spans the boundary between the Peninsular Ranges and the Colorado Desert geomorphic province. The northwestern portions of Anza-Borrego Desert State Park are very representative of the Peninsular Ranges geomorphic province.

Written by Mike Fuller and others, California Geological Survey

Photos: Mike Fuller

Simplified Geologic Map | Peninsular Range Geomorphic Province



